

COUNTRY Korea

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SUBJECT Monazite Mining in North Korea

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INFO. 1948 - 1951

SUPPLEMENT TO  
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1. The North Korean government began its rare mineral production program in June 1948. In October 1948 about 60 tons of monazite from the Cholsan (124-40, 39-46) mine were exported to the Soviet Union for research purposes. The North Koreans exchanged monazite for Soviet tanks and other war materials. In 1949, about 7,000 tons were shipped and in 1950 about 10,000 tons to the Soviet Union.
2. From August 1949, when the three major mines at Cholsan, Sinchon (125-29, 38-20), and Taedong (126-44, 39-11) began full production, until May 1950, mining was under the Mining Control Bureau. In May 1950, control was shifted to the Special Metals Section of the North Korean Ministry of Industry.
3. The Cholsan mine employed 17 technicians, 400 clerks, 500 experts, and 22,500 laborers. The Sinchon mine employed 6 technicians, 150 clerks, 300 experts, and 2,700 laborers. The Taedong mine, which closed in January 1950 because of poor drainage, employed 1 technician, 40 clerks, 100 experts and 459 laborers.
4. The following is a table of estimates made by a Soviet expert, Botikov, for the major mines in 1948:

	Heavy Sands Deposit	Monazite Deposit	Quantity of Monazite Per Ton of Heavy Sand
Cholsan	10,000,000 tons	100,000 tons	1,000 grams
Sinchon	7,500,000 tons	50,000 tons	150 grams
Taedong	7,500,000 tons	50,000 tons	150 grams

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5. The heavy sands at the Taedong and Sinchon mines contain the following percentages of these minerals:

ThO <sub>2</sub>	(Thorium)	9.49	Y <sub>2</sub> O <sub>3</sub>	2.47
CaO <sub>3</sub>		28.25	Fe <sub>2</sub> O <sub>3</sub>	1.65
H <sub>2</sub> O <sub>3</sub>		27.87	P <sub>2</sub> O <sub>3</sub>	26.07
SiO <sub>2</sub>		1.85	UO <sub>2</sub>	.15

Small amounts of CaO, PbO, H<sub>2</sub>O and CO<sub>2</sub> are also found. These figures apply generally to the Cholsan mine, except that the thorium content is from five to eight percent.

6. Other mines operating in North Korea in late March 1951 are as follows:

- The Chongam-ni (125-40, 39-17)-Sinhung-ni (125-38, 39-16) area mine averages production of 60 tons of monazite, with a thorium content of from 15 to 20 percent, daily. The mine employs 5,000 men, who produce four to eight pounds each daily.
- The Uliyul (125-12, 38-31) mine, which opened in January 1950, employs over 10,000 men who produce 14 to 20 pounds each daily. Their pay is about 20 won per pound. The thorium content is from 50 to 60 percent.
- The mine at Sunan (126-22, 38-42) is most productive (figures not given), although the thorium content is low.

7. The following are test mines operated by the North Korean Government:

Chungsang-ni (125-56, 39-39)  
 Suppo-ri (125-59, 39-18)  
 Yan-dong (124-56, 39-45)  
 Sanjin-dong (130-09, 42-07)  
 Jin-ni (126-31, 39-49)  
 Chepyong-ni (126-06, 39-15)

8. Deposits estimated at 23,000,000,000 tons of heavy sand, untouched because of labor costs, are in the following areast

Wonsan (127-27, 39-09) to Kosong (128-17, 38-42)  
 Kwankhae-myon (130-05, 42-08)  
 Yongwon (126-12, 39-50), Kaechon (125-54, 39-42), Pakchon (125-31, 39-44)  
 Kusong (125-15, 39-59), Changjin (127-15, 40-23) areas.

9. The ore sand is processed by the specific gravity method into heavy and general sands. The heavy sands are then processed by magnetic concentration into monazite and other metals such as iron and tin. The monazite in final concentration is about 60 percent ThO<sub>2</sub> Ca<sub>2</sub>O<sub>3</sub>.
10. The monazite is packed in cotton cloth bags weighing from 20 to 50 kilograms each and loaded onto freight cars. In the Cholsan area it is shipped from Chayon Kwan (124-43, 39-51) station; in the Sinchon area from the Sanchon (125-20, 38-21) station; and in the Taedong area from the Sunan (125-41, 39-12) station. Until 1949 exported monazite was sent to Linyuan to await shipment to the Soviet Union. After 1949 it was carried by railroad to Artung in Manchuria.

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